

Claims:

1. (Currently Amended) A cable management rack for routing cables thereon, said rack having a front side and a rear side and said rack comprising:

a frame; and

a frame-mountable pass-through tray disposed on said frame, said pass-through tray having a base and sidewalls defining a front-to-back channel in a center of the tray for routing said cables between said front side of said rack and said rear side of said rack, said pass-through tray including at least one upstanding spool disposed substantially at a center of said tray, a width of the front-to-back channel being substantially constant along a length of the front-to-back channel and being large enough to permit the cables to pass between the spool and portions of the sidewalls of the front-to-back channel opposing the spool.

2. (Currently Amended) A rack in accordance with claim 1 wherein said tray includes a base for supporting said cables thereon and at least one mounting portion extending generally substantially perpendicularly from each of said base sidewalls for permitting said tray to be mounted to said frame.

3. (Currently Amended) A rack in accordance with claim 2 wherein said pass-through tray mounting portion includes a mounting flange extending from each of said sidewalls of said front-to-back channel and a secondary mounting flange opposing the mounting flange at least one side wall for retaining said cables on said base.

4. (Currently Amended) A rack in accordance with claim 3-1 wherein each of said side walls includes a bend radius control portion.

5. (Currently Amended) A rack in accordance with claim 2-1 wherein said tray includes a rear channel for routing cables generally transversely to the direction they take when being routed between said front and rear sides of said rack, said rear channel adjacent to said front-to-back channel, said rear channel containing a trough generally planar with and connected to said base and a rear wall on an opposite side of said trough as said base.

6. (Original) A rack in accordance with claim 5 wherein said rear channel of said tray includes a waterfall for routing cables downwardly out of said rear channel.

7. (Original) A rack in accordance with claim 6 wherein said rack further includes a rear vertical elevator and said waterfall routes cables between said rear channel and said rear vertical elevator.

8. (Currently Amended) A rack in accordance with claim 5-3 wherein said tray includes a rear channel extending substantially perpendicular to the front-to-back channel, and a secondary mounting flange extends from a sidewall defining said rear channel~~base includes said at least one upstanding spool thereon for providing bend radius support for cables routed between said base of said tray and said rear channel.~~

9-19. (Cancelled)

20. (Currently Amended) A multiple-rack system of cable management racks for routing cables thereon and therebetween, said system including adjacent racks at least one each of said racks having a front side and a rear side, and said one each of said adjacent racks comprising:
a frame; and

a frame-mountable pass-through tray disposed on said frame, said pass-through tray having a base and sidewalls defining a front-to-back channel in a center of the tray for routing said cables between said front side of said one-rack and said rear side of said one-rack, said tray including a rear channel adjacent to and extending substantially perpendicular to said front-to-back channel, said rear channel having openings on opposing ends, said rear channel containing a trough generally planar with and connected to said base and a rear wall on an opposite side of said trough as said base, said pass-through tray including at least one upstanding spool that is disposed at a center of said tray, a width of the front-to-back channel being substantially constant along a length of the front-to-back channel and being large enough to permit the cables to pass between the spool and portions of the sidewalls of the front-to-back channel opposing the spool,

wherein opposing openings of said rear channels of said trays of said adjacent racks are connected together such that said rear channels are contiguous.

21-31. (Cancelled)

32. (Previously Presented) A rack in accordance with claim 1 wherein said at least one upstanding spool is freestanding such that said at least one upstanding spool is isolated from all walls of said tray.

33. (Cancelled)

34. (Previously Presented) A multiple-rack system in accordance with claim 20 wherein said at least one upstanding spool is freestanding such that said at least one upstanding spool is isolated from all walls of said tray.

35-45. (Cancelled)

46. (Currently Amended) A multiple-rack system in accordance with claim 20 wherein ~~a direction of extension between said front and rear sides of said rack is a first direction, and said tray further comprises a rear channel that contains:~~

~~a trough extending in a second direction substantially perpendicular to the first direction; and~~

said rear channel further comprises a waterfall for routing cables downwardly out of said rear channel ~~from said trough~~, said waterfall extending substantially parallel to the front-to-back channel ~~first direction~~.

47. (Previously Presented) A rack in accordance with claim 1 wherein said tray further comprises mounting flanges through which said tray is mounted to said frame at both said front side of said rack and said rear side of said rack.

48. (Cancelled)

49. (Previously Presented) A multiple-rack system in accordance with claim 20 wherein said tray further comprises mounting flanges through which said tray is mounted to said frame at both said front side of said rack and said rear side of said rack.

50. (New) A rack in accordance with claim 1 further comprising a slack manager having a plurality of spools at different elevations, the frame having a vertical side rail to which the slack manager and the tray are connected on opposite sides.

51. (New) A rack in accordance with claim 50 further comprising an end cap connected to the slack manager such that the end cap extends substantially parallel with the front-to-back channel and the slack manager is disposed between the end cap and the vertical side rail, the tray further comprising a rear channel adjacent to and extending substantially perpendicular to the front-to-back channel, the rear channel having openings on opposing ends, the end cap terminating one of the openings.

52. (New) A rack in accordance with claim 50 wherein a set of the spools are vertically aligned, at least one of the spools being out of alignment with the set of spools such that a distance between the at least one of the spools and the vertical side rail is different than a distance between the set of spools and the vertical side rail.

53. (New) A rack in accordance with claim 52 wherein the at least one of the spools is more proximate to the vertical side rail than the set of spools.

54. (New) A rack in accordance with claim 52 wherein the at least one of the spools comprises the spool adjacent to a lowermost spool of the plurality of spools.

55. (New) A rack in accordance with claim 50 further comprising a bend radius control portion over each opening, the bend radius control portion curving downwardly and rearwardly.

56. (New) A rack in accordance with claim 1 wherein the rack contains a plurality of the trays, the rack further comprising a plurality of fans disposed on opposing sides of the rack between adjacent trays, adjacent fans separated by a substantially constant distance, the fans curving outward and downward.

57. (New) A rack in accordance with claim 56 wherein the tray further comprises: bend radius control portions that curve outward from the sidewalls that form the front-to-back channel, and

bend radius control extensions connected to the bend radius control portions, the bend radius control extensions curving downward and inward, the bend radius control extensions opposing uppermost fans of the plurality of fans and substantially contiguous with lowermost fans of the plurality of fans.

58. (New) A rack in accordance with claim 56 wherein each fan comprises a bend radius control surface containing finger holes, each finger hole sized to permit a single cable to be retained therein.

59. (New) A rack in accordance with claim 56 further comprising enclosures mounted between adjacent trays and adapted to receive communication equipment therein.

60. (New) A rack in accordance with claim 57 wherein each of the enclosures is disposed such that the enclosure overlaps a majority of the base of the front-to-back channel.

61. (New) A multiple-rack system in accordance with claim 49 wherein the mounting flanges include primary mounting flanges that extend from each of the sidewalls of the front-to-back channel and secondary mounting flanges opposing the mounting flanges.

62. (New) A multiple-rack system in accordance with claim 61 wherein the secondary mounting flange extends from a sidewall defining the rear channel.

63. (New) A multiple-rack system in accordance with claim 46 wherein each of the racks further includes a rear vertical elevator, the waterfall routing cables between the rear channel and the rear vertical elevator.

64. (New) A multiple-rack system in accordance with claim 20 wherein each adjacent rack further comprises a slack manager having a plurality of spools at different elevations, the frame of the rack having a vertical side rail to which the slack manager of the rack and the tray of the rack are connected on opposite sides, and wherein the slack manager of a first of the adjacent racks is connected to a second of the adjacent racks such that the slack manager of the first of the adjacent racks is disposed between the adjacent racks.

65. (New) A multiple-rack system in accordance with claim 64 further comprising an end cap connected to the slack manager of the second of the adjacent racks such that the end cap extends substantially parallel with the front-to-back channel of the second of the adjacent racks and the slack manager of the second of the adjacent racks is disposed between the end cap and the vertical side rail of the second of the adjacent racks, the end cap terminating one of the openings of the rear channel of the second of the adjacent racks.

66. (New) A multiple-rack system in accordance with claim 64 wherein a set of the spools of each slack manager are vertically aligned, at least one of the spools being out of alignment with the set of spools such that a distance between the at least one of the spools of the rack and the vertical side rail of the rack is different than a distance between the set of spools of the rack and the vertical side rail of the rack.

67. (New) A multiple-rack system in accordance with claim 66 wherein the at least one of the spools is more proximate to the vertical side rail than the set of spools.

68. (New) A multiple-rack system in accordance with claim 66 wherein the at least one of the spools comprises the spool adjacent to a lowermost spool of the plurality of spools.

69. (New) A multiple-rack system in accordance with claim 20 wherein each adjacent rack contains a plurality of the trays, the rack further comprising a plurality of fans disposed on opposing sides of the rack between adjacent trays, adjacent fans separated by a substantially constant distance, the fans curving outward and downward.

70. (New) A multiple-rack system in accordance with claim 69 wherein each fan comprises a bend radius control surface containing finger holes, each finger hole sized to permit a single cable to be retained therein.

71. (New) A multiple-rack system in accordance with claim 69 wherein the tray further comprises:

bend radius control portions that curve outward from the sidewalls that form the front-to-back channel, and

bend radius control extensions connected to the bend radius control portions, the bend radius control extensions curving downward and inward, the bend radius control extensions opposing uppermost fans of the plurality of fans and substantially contiguous with lowermost fans of the plurality of fans.

72. (New) A multiple-rack system in accordance with claim 69 further comprising enclosures mounted between adjacent trays and adapted to receive communication equipment therein.

73. (New) A multiple-rack system in accordance with claim 72 wherein each of the enclosures is disposed such that the enclosure overlaps a majority of the base of the front-to-back channel.

74. (New) A multiple-rack system in accordance with claim 20 further comprising a bend radius control portion over each opening, the bend radius control portion curving downwardly and rearwardly.